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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,467	12/15/2003	Luna H. Chiu	WJT08-0054 (JSF001-0003)	3463
7590	12/11/2006		EXAMINER HAM, SEUNGSOOK	
William J. Tucker 14431 Gollad Drive Box #8 Malakoff, TX 75148			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,467

Applicant(s)

CHIU ET AL.

Examiner

Seungsook Ham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 12-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/15/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group 1, Species 1A, claims 1-4 and 11 in the reply filed on October 14, 2006 is acknowledged.

It should be noted that the election requirement between Species 1A and 1B has been withdrawn since Species 1A and 1B are not patentably distinct species. Thus, claims 5-10 have been rejoined and fully examined for patentability.

Claims 12-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group 2, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 14, 2006.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claim 1, "said block defining a plurality of through-holes", must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 6, "said block defining a plurality of through-holes" is misleading since the preamble is limited to a "single block resonator" which has a single through-hole in each dielectric block (see fig. 1, each dielectric block 102, 104 has a single through hole 115, 125). Claim 4, lines 4-5, also has the same indefiniteness.

In claim 3, "metallization of tunable varactors deposited via a photodefinable process" is vague and indefinite as to how tunable varactors are metallized. It should

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be noted that varactors are an electronic component and do not require any metallization. Claim 8 has the same indefiniteness.

In claim 5, lines 18-21, "said electrode pattern consisting of a photodefinable metallization...*converted* to a photodefined patterned metallization" cannot be understood as to what is meant by "converted". Claims 6, 9 and 10 also have the same indefiniteness.

In claim 7, line 10, and claim 8, line 14, "said metallization" is confusing as to which metallization referring to.

In claim 11, "said photodefined metallic patterned surfaces" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 6, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitajima et al. (US '721).

Kitajima et al. (fig. 5B) discloses a signal block resonator comprising: a dielectric block having a plurality of through-holes, each through-holes extending from a top surface to a bottom surface, a metallization disposed onto all surface of the block (col. 4, lines 27-33); and a least one surface of the block (or at least one of said metallic patterned surface) is less than 4mm square.

In claim 1, "a metallization deposited via a photodefinable process", and claim 10, "said electrode pattern consisting of a photodefinable metallization" are a product-by-process limitation. It should be noted that the determination of the patentability of product-by-process claim is based on the product itself, and does not depend on its method of production. The photodefinable process does not provide any distinctive structural characteristics to the final product; thus, the device of Kitajima et al. is the same as the applicant's claimed invention.

Claims 1, 2, 4-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitazawa et al. (JP 10-032403, insofar as understood).

Kitazawa et al. (figs. 1(a)-1(b)) discloses a single block resonator/RF filter comprising: a dielectric block 10a having a through-hole 12a, at least one additional dielectric block 10b having a through-hole 12b, the dielectric block and the at least one additional dielectric block are connected via an iris 15a, 15b, and a metallization disposed on the dielectric block and the additional dielectric block, and input/output couplings 14a, 14b.

Regarding claim 6, Kitazawa et al. also discloses the metallization covering all surfaces of the block (see fig. 7, element 21).

Regarding product-by-process limitations in claim 1 ("a metallization deposited via a photodefinable process"), claim 5, ("a photodefined patterned metallization"), and claim 10 ("said electrode pattern consisting of a photodefinable metallization"), the same reasoning is applied as above (see 25 USC 102(b) rejection in view of Kitajima et al. above).

Claims 1-3, and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Newell et al. (US '215).

Newell et al. (fig. 1) et al. discloses a signal block resonator/RF filter comprising: a dielectric block having a plurality of through-holes 26-28; each through-holes extending from a top surface to a bottom surface; and a metallization disposed onto all surface of the block 16, 18, 20, 22, 24, 40, 42, 44 (col. 2, lines 30-36), input/output couplings 32, 36, and tunable varactors 50 (col. 5, lines 14-20).

Regarding the product-by-process limitations in claims 1 and 5, the same reasoning is applied as above (see 25 USC 102(b) rejection in view of Kitajima et al. above).

Claims 1, 4-7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Arakawa (US '808).

Arakawa (figs. 6-10) et al. discloses a signal block resonator comprising: a dielectric block 1c having a plurality of through-holes 7a-7d; each through-holes extending from a top surface to a bottom surface; and a metallization disposed onto all surface of the block 3a-3, input/output couplings 2a, 2b, additional dielectric block 1b having a through hole 7b and connected to the dielectric block 1c by an iris 4b.

Regarding claims 5-7 and 9, Arakawa (figs. 1 and 2) also discloses a dielectric block 1a and an additional block 1b having metallization covers all the surface of the dielectric block and the additional block 3a, 3b, and connected via an iris 4a, 4b; and input/output couplings 2a, 2b.

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Regarding the product-by-process limitations in claims 1 and 5, the same reasoning is applied as above (see 25 USC 102(b) rejection in view of Kitajima et al. above).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5-7, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Endou et al. (US Pat. Appl. Pub. '973).

Endou et al. (fig. 1) discloses a signal block resonator comprising: a dielectric block Q1 having an electrode pattern/metallization 3 disposed onto all surface of the block; and a least one surface of the block is less than 4mm square (paragraph [0066]).

Regarding the product-by-process limitations in claims 5 and 10, the same reasoning is applied as above (see 25 USC 102(b) rejection in view of Kitajima et al. above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell et al. (US '215) in view of Kosugi et al. (EP 208,424).

Newell et al. is applied as above. Newell does not show providing at least one additional block (or providing a resonator in a separate dielectric block) and connecting the dielectric block through an iris. However, such technique is well known in the art.

Kosugi et al. (figs. 3-5) discloses a dielectric resonator/filter having a plurality of dielectric blocks 1 with through-holes 2, and two dielectric blocks are connected by an iris 6. Moreover, Kosugi et al. shows a resonator/filter having a single dielectric block with a plurality of through holes (see figs. 1 and 2) which is similar to the device of Newell et al. and addresses the problem of the size (p. 2, second paragraph).

It would have been obvious to one of ordinary skill in the art to provide separate dielectric block for each through-hole and connected by an iris in the device of Newell et al. to reduce the size of the resonator/filter as taught by Kosugi et al. (p. 2, third paragraph).

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell et al. (US '215) or Arakawa (US '808) in view of Endou et al. (US Pat. App. Pub. '973).

Newell et al. and Arakawa are applied as above. Newell et al. and Arakawa are silent as to whether at least one surface of the block or a metallic patterned surface is less than 4mm square.

Endou et al. teaches that it is a conventional practice in a dielectric filter technology that the length of the dielectric block is about 3.5mm to 4mm (paragraph [0067]).

Thus, it would have been obvious to one of ordinary skill in the art to provide a surface of the block/metallized surface having less than 4mm square in the device of Newell et al. or Arakawa since such length is well known in the art as taught by Endou et al. (see paragraph [0067]).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Grieco et al. discloses a method of manufacturing a dielectric filter; and


Altman et al. discloses a photodefinable process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Seungsook Ham
Primary Examiner
Art Unit 2817

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